



TECHNICAL UNIVERSITY OF MOMBASA

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SCHOOL OF ENGINEERING AND TECHNOLOGY  
DEPARTMENT OF BUILDING & CIVIL ENGINEERING  
UNIVERSITY EXAMINATION FOR:

BACHELOR OF TECHNOLOGY IN CIVIL ENGINEERING

**TCV 4326: CONSTRUCTION TECHNOLOGY IV**  
SPECIAL/SUPPLEMENTARY EXAMINATION

**SERIES: MARCH 2025**

**TIME: 2 HOURS**

**Instructions to Candidates**

You should have the following for this examination

*-Answer Booklet, examination pass and student ID*

This paper consists of **five** questions.

Attempt question ONE (Compulsory) and any other TWO questions.

**Do not write on the question paper.**

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**QUESTION ONE (COMPULSORY) 30 Marks**

- a) Draw a typical centralized direct hot water supply to a maisonette, with in the ground floor ; a boiler,, kitchen sink, and supply to the bath and the wash hand basin, while on the first floor hot water is to be supplied to; bath, wash hand basin. The supply is generated from the hot water cylinder located on the first floor. (20 marks)
- b) Show all the necessary control systems for the supply of hot water system described in question a) above. (5marks)
- c) Discuss where this system would not be appropriate and state an alternative solution. (5marks)

**QUESTION TWO, (20marks)**

- a) State why localized systems, hot water may be ideal in a large establishment. (5marks)
- b) Explain and detail the following localized systems;

- i) Prismatic,
- ii) Instantaneous gas heater system. (15marks)

**QUESTION THREE, (20marks)**

With the aid suitable sketches, Outline the construction of a single stack drainage system stating the regulations which should be strictly adhered to.

**QUESTION FOUR, (20marks)**

- a) State the significance of ventilating drain lines (6marks)
- b) Draw a typical contemporary ventilation system for a drainage system. (8marks)
- c) Explain where cesspools are ideally deployed and detail a typical cesspool.

**QUESTION FIVE, (20mark)**

- a) State the factors which govern the size of a septic tank. (6marks)
- b) Detail a typical septic tank, to show the plan and the sectional elevation of a septic tank. (14marks)